DOCUMENT RESUME

ED 247 025 PS 014 497

AUTHOR Gripshover, Nancy A.
TITLE The Consequences of Home Computers for Gender-Role Socialization: Defining a Theoretical Perspective.
PUB DATE Mar 84
NOTE 30p.; Filmed from best available copy. Paper presented at the Eastern Communication Association Conference (Philadelphia, PA, March 8-11, 1984).
PUB TYPE Viewpoints (120) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Family Characteristics; *Family Environment; *Microcomputers; Research Methodology; *Research Needs; Research Problems; *Sex Role; Sex Stereotypes; Social Class; *Socialization
IDENTIFIERS Bernstein (Basil); *Social Interaction; Theoretical Analysis

ABSTRACT

An important concern related to the increase in numbers of home computers is the integration of technology into the family system. This paper defines a theoretical perspective and research strategies from which to assess gender-related perceptions surrounding home computer use. The perspective is drawn from B. Bernstein's (1971, 1973) notions of person-oriented and positional families. From this perspective, the patterns of interaction within a family contribute to reliance on particular ways of organizing social reality. These patterns are expected to be a major force in the development of children's perceptions of computer use. (Author/RH)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

X This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

SCOPE OF INTEREST NOTICE

The Eric Facility has assigned this document for processing to: IR

In our judgment, this document is also of interest to the Clearinghouses noted to the right. Indexing should reflect their special points of view

ED247025

The Consequences of Home Computers for Gender-Role Socialization: Defining a Theoretical Perspective.

Nancy A. Gripshover

University of Massachusetts

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Nancy A. Gripshover

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

PS 014497

Paper presented at the 1984 Eastern Communication Association Conference, Philadelphia, Pennsylvania, March, 1984.

FILMED FROM
BEST COPY AVAILABLE

Abstract

An important concern related to the increase of home computers is the integration of the technology into the family system. This paper defines a theoretical perspective and research strategies form which to assess gender-related perceptions that may develop surrounding home computer use. The perspective is drawn from Bernstein's (1971, 1973) notions of person-oriented and positional families. From this perspective, the patterns of interaction endemic to a family contribute to reliance on particular ways of organizing social reality. These patterns are expected to be a major force in the development of children's perceptions of computer use.

The Consequences of Home Computers for Gender-Role Socialization:

Defining a Theoretical Perspective.

The electronic environment of adults and children is currently experiencing radical changes. New forms of mass communication content in the forms of computer software packages and data bank services, such as videotex, are becoming increasingly more sophisticated and available. Videogames and personal computers give us messages that meet the traditional criteria for mass communication: messages sent to a large, heterogeneous audience through electronic means, in which indirect feedback exists between receiver and source, the latter being an organization (see, for example, Severin and Tankard, 1979). While the conventional components may be there, the products of computer programmers and their attendant hardware represent an expansion of the process of mass communication. With the recent developments in microcomputer technology, it is clear that home (or personal) computers are destined to be included in the acouterments of the American lifestyle.

The potential impact of a new technology, in a society so enamoured of technology, leads to a variety of extreme predictions. For example, Ball (1981, p. 14) states, "videotex is inevitable." Koughan (1982, p. 29) claims that a "technological generation gap" will develop in which "the children of the eighties will possess an electronic literacy beyond the experience and comprehension of their parents." The need to track changes that will occur in families is a salient issue for social science researchers and policy makers. The influence of television on patterns of family interaction, for example, illustrates the consequences of a technology for family systems (Comstock, et al., 1978). The addition of another technology into a home will also have some effect. Even when trying to avoid falling prey to the lugubrious pre-

dictions of a "wired society", it is difficult to deny the logic of devising strategies for the study of a phenomenon before it becomes widespread. The purpose of this paper is to begin to define a theoretical perspective and research strategies from which to assess the effects of the introduction of home computers into families. Of specific interest is the exploration of the extent to which gender-related expectations and perceptions will become a part of a family's computer use patterns.

Gender-Role Stereotypes in the Computer Age

The overwhelming focus of the literature related to computer use is the technology, per se, for example, consequences of improvement in memory capacities, graphics, etc. (Amarel, 1983). Works that do attempt to study the social impact of computers tend to emphasize computer-aided instruction (e.g., Wilkinson, 1983; Frank, 1983), or the effects on the workplace, (e.g., Mosco, 1982; Sigel, 1980). In the latter two, discussions of home computers are limited to descriptions of home employment, with little emphasis given to the effects of such arrangements on the family as a whole.

This relative lack of interest in the integration of computer technologies into families' communication systems may be due to several factors. Despite the impression one may get from attending to advertising, very few families own home computers. Approximately three to five percent of American housholds have home computers (Finding Home Computer Uses, 1983). Although this translates into millions of computers, it is indicative of the recency of the phenomenon. This naturally contributes to the lack of available systematic research.

More directly relevant to this paper is the possibility that gender-role stereotypes are not perceived to be an issue of concern in home computer use,

due to the apparent diffusion of gender-role stereotypes during the past 20 years and due to beliefs about the "typical" families who are purshcaing home computers. Americans who have either purchased, or are seriously considering purshasing a home computer are under 50 years of age and in upper soci-economic brackets (Finding Home Computer Uses, 1983). It perhaps seems plausible to assume that these relatively well-educated and wealthy families would be forward-thinking not only in terms of adopting new technologies, but also in rejecting traditional, prescribed gender-roles. However, even if such a relationship exists (and there is evidence to suggest that it does not), home computers will soon be owned by a broader spectrum of people. The most desirable course, therefore, is the development of a sensitivity to the potential for gender-related norms to exist regarding computer use and to work on approaches for assessing if and how these are appearing in family interactions.

Wirtenberg and Richardson (1983) find that despite obvious changes in cultural beliefs about gender-rols, traditional stereotypes persist and continue to influence our social, economic and political institutions, Kiesler, Sproules, and Eccles (1983) speculate (and provide some initial evidence) that females of all ages will be excluded from, or given lower status in, the "computer revolution". They report that the majority of software packages for microcomputers deals with situations and themes more likely to appeal to boys than to girls. Highly competitive scenarios in which aggression is necessary to achieve goals are extermely common, for example, earth-bound and space wars, slaying monsters, etc. This trend is apparent not only in entertainment, but in educational software as well. The latter has been shown to result in a lack of interest in female students, according to the authors.

In the process of conducting a series of observations, Kiesler, et al.

began to note some of the consequences of the diffusion of computer-related technologies. In videogame arcades males greatly outnumber females, and the females present are typically only observers of their male peers' videogame skills. Computer camps also tend to be more heavily attended by males. Observations in elementary school classrooms reveal that boys dominate the school's computer resources, to the exclusion of girls who are interested in learning computing skills. The authors report that teachers who intervene to more equitably allocate computer time find that girls enjoy and are competent at computer programming. Kiesler, et al. see the effects of this intervention as a signal of the importance of environmental factors on computer use patterns. In regard to home computer use, they fear that the kind of intervention observed in the classroom will be absent in the home.

Computers in Family Contexts

Kiesler, et al. offer anecdotal, yet compelling, evidence that gender-related norms are developing regarding computer use. The theoretical perspective to be discussed for the study of this phenomenon in home computer use will involve an application of Bernstein's (e.g., 1971, 1973) notions regarding positional and person-oriented families. The former are characterized by reliance on prescribed roles and by a structure in which parents exert a great deal of control over their children. In the latter, there is a wider range of behaviors that are acceptable and discipline is more a product of negotiation than proscription. From this perspective, the patterns of interactions endemic to a family contribute to the use of particular styles of speech and ways of organizing social reality.

These differences are largely a consequence of styles of gaining control over children. The styles, themselves, are an outgrowth of the particular

family systems (Bernstein, 1971, pp.149-159). Bernstein identifies two types of verbal strategies, positional and personal appeals, that typify parenting styles in their respective family types. Positional appeals rely heavily on comparisons of the child to others in his/her social role, e.g., "Little girls don't play with trucks." Personal appeals employ discussions of the child's motivations and explicit reasons why the behavior needs to be changed, e.g., "I know you like playing with trucks, but you promised your brother he could have a turn, and we must keep our promises..." As Bernstein points out, both language codes (restricted and elaborated) are possible in speech used to construct either type of appeal. This has relevance to this paper, as it permits focus on the type of parenting, per se, while obviating the need to assess speech codes.

As the process of socialization is largely concerned with developing acceptable behaviors in the child, i.e., controlling his/her behavior, the manner in which this control is exerted introduces and reinforces in the child object and person perceptions (Bernstein, 1971, p.156). Children who are raised in positional families are likely to view themselves in terms of universal norms, and to see little need for intellectualizing about one's role in the family or in society. Children in person-oriented families are more likely to question the validity of prescribed roles, e.g., norms for gender-appropriate occupations, and to view themselves as individuals who must "know" themselves in order to best know how to live their lives. It seems likely therefore, that differences between the two family types will lead to differences in the ways in which computer use in contextualized and that gender-roles will be a salient factor in computer use differences.

Bernstein's work, although well-supproted by empirical research (e.g., Bearson and Cassell, 1975; Bernstein and Henderson, 1973; Turner and Pickvance, 1973) has been the source of considerable controversy. Bernstein himself has recognized and commented on criticisms of his approach, which stem generally from erroneous perceptions that his research provides justifications of and/or evidence for the intrinsic superiority of the middle class over the working class (see Bernstein, 1971, pp.18-19). Even though Bernstein finds social class distinctions between types of families (positional families are more likely to be from the working class, while person-oriented families are more likely to be from the middle class), his treatment of this phenomenon is not designed to ascribe values to either set of characteristics, but rather to explore the effects of patterns of family interaction on the development of the child.

One valid and salient criticism of applying Bernstein's perspective outside of Great Britain is discussed by Poole and Field (1971). They acknowledge the difffculity involved in comparing social class differences and definitions across cultures. Any application of Bernstein's theories must be flexible enough to allow for the possibility that socioeconomic status (SES) may not be as accurate a predictor of family types in the United States as it has proven to be in Great Britian. It seems that the more relevant variable is family type, over and above correlations with SES of the family.

Smith and Fisher (1982) discuss the problematic nature of predicting gender-role attitudes based on knowledge of social class. They present a thorough critique of methodological flaws that have contributed to contradictory findings regarding the explanatory power of social class variables. The authors cite a lack of representative samples due to the heavy reliance on

college undergraduates, and failure to treat gender-role attitudes as multi-dimensional as the dominant short-comings in the existing research.

To explain the thinness of SES as a predictor Smith and Fisher speculate that middle/lower class distinctions have been blurred in our society, thereby dispersing the predictive power of SES. Another factor that they believe complicates the relationship between gender-role attitudes ans social class is the difficulity in measuring the link between attitudes and behaviors. They employ Tarvis' (1973) difinition of "unliberated liberals" ("persons who are supportive of more contempory sex roles in the abstract as transmitted via attitudes, but are markedly traditional in their personal relationships", p.85) to explain the anomoly between the perpetuation of gender-role stereotypes in the midst of an apparent shift away from belief in these stereotypes.

The existence of "unliberated liberals" could certainly be related to the gender-role norms that appear to be developing regarding the use of home computers and videogames. These norms are likely to have their roots in cultural norms that exist regarding the gender-related differences in mathematical abilities. Traditionally, mathematics and related fields have been perceived as the "natural" (in both an innate and enculturated sense) domain of males. Weitz (1977) and Jacklin (1983) provide useful critiques of the research that purports to demonstrate innate predispositions for field independence in males and field dependence in females, and the subsequent relationships made to differing abilities in spatial tasks and logical problem solving. Weitz reports a consensus among geneticists that indicates little support for biologically determined differences. Both authors conclude that any differences that have been found are extremely small, and have been ascribed an exaggerated degree of importance. Kiesler, at al. (1983) provide evidence that

gender differences in performance on videogames is more a function of general female lack of experience with the task and lack of interest in typical videogame fare, than lack of ability in female children. Papert (1980) also indicates that in a specially constructed environment all children can become facile computer programmers.

Gender-role stereotypes relating to mathematical and scientific abilities do persist in our society. More importantly, children as young as pre-schoolers are aware of the stereotypes and use them in the development of their self-images and world views (see Albert and Porter, 1982; Ramage, Rotherman, and Robinson, 1982; Guttentag and Longfellow, 1977; Crandall, 1969).

Parsons, Adler, and Kaczala,(1982) attempt to determine the impact of the family, specifically parental attitudes, on the development of gender-related expectations of abilities in mathematcis in children. According to the authors, normative expectations are typified by the following trends: "boys have higher expectancies and self-concepts of their math abilities than girls" (p.312). These patterns exist despite the fact that boys and girls tend to perform equally well in math classes. The implication is that the females' negative pereeptions are so strong that they override situational realities with the result that they abandon math-related coursework as soon as possible and forfeit the chance to be qualified for a number of related fields.

In order to identify the socialization variables that might explain these anomolies, the researchers tested two main hypotheses. The first was a role-modeling hypothesis which stated that girls have lower interest and expectations of their mathematical abilities than boys as the result of parental displays of behaviors that reinforce traditional norms. The second hypothesis treated parents as "expectancy socializers" and predicted that parents have different

expectations of their sons' and daughters' abilities and these expectations are positively related to individual differneces on their children's expectations and performance.

Families completed surveys to ascertain parents' perceptions of their own mathematical abilities, the division of math-related tasks in the home, and their perceptions of their children's math abilities. The children were surveyed regarding their perceptions of their own math abilities and their parents' attitudes toward mathematics. The researchers determined that the role modeling hypothesis was not a good explanation of the development of math-related expectancies in children. Although fathers generally reported more confidence in math skills than did mothers, math-related tasks, e.g., helping the child with math homework, budgetting, were fairly equally divided in the households sampled. Therefore, children did have exposure to female role models who performed math-related tasks as a regular part of their role as mothers.

The patterns of children's self-perceptions are thus not profoundly influenced by behavioral imitations alone. It was apparent from the data that gender-related math expectancies are more likely a result of the socializing force of the parents' expectations. Children were generally very accurate in their perceptions of parental attitudes toward math. Parents in the study believed that math would be less difficult for their sons than their daughters and that math was a more important subject for their sons. The results of the path analysis indicate that children's self-concepts and task concepts were much more related to parental attitudes than to the child's past performance. For example, female children tended to have very low expectations for their performance on future math courses, despite their equal (or better) performance

when compared to male peers. The authors summatize the dilemma accurately:

> While we do not have, as yet, the necessary longitudinal data to test the hypothesis, it seems probable that parents are exerting this influence through their role as interpreters of reality. By attributing their duaghters' achievements to hard work and their sons' to high ability, parents may be teaching their sons and daughters to draw different inferences regarding their achievements from equivalent experiences. (p.320)

The Parsons, et al. study is a well constructed and ambitious attempt to isolate factors within family systems that lead to gender-role stereotypes. Its relevance to a Bernsteinian perspective lies in its demonstration of the importance of parental styles of communication, and the direct influence on the child of socialization into certain ways of organizing social reality. Johnson (1978) considers this phenomenon in a more global sense in discussing the genderizing effects of communication in the process of socialization. She describes position-oriented communication as strongly related to the inculcation of narrow gender-related beliefs regarding norms for goals and behaviors. Person-oriented communication is less likely to have these effects.

Also of interest in the Parsons, et al. study are the patterns of parental attributions, i.e., attributing sons' successes to ability; daughters to hard work. Research in attribution theory has demonstrated that the types of attributions made about our own and others' behaviors have consequences for self-perceptions and the perpetuation of stereotypes. Pettigrew (1979) has demonstrated that one means of subtly, but effectively, reinforcing stereotypes is by attributing counter-stereotypical success to an extreme amount of effort. The implication being that achievements are the product of an inordinate amount

of effort, thereby accentuating the unusual nature of the achievement. This notion becomes especially clear when contrasted with the ability attributions made in the Parsons, et al. study. Males' suscesses were attributed to a stable, internal trait, implying innate ability. It is not surprising, then, that differences exist between sisters' and brothers in terms of self-perceptions and expectations for the future, and that these differences are congruent with the underlying content of parental communication.

An additional consideration related to the integration of a computer into a household arises from viewing the home computer as a scarce resource. It is likely that most families will purchase one computer for the family's use. Decisions will therefore have to be made regarding not only which softwate packages to but, but also how computer use will be allocated. Kiesler, et al. (1983) as noted earlier, have provided examples in which males have dominated classroom computers. Pepitone (1980, pp.317-318) discusses the same tendency for females to defer rather than to aggresively compete for scarce resources. She reports that although no significant differences are consistently found beteeen boys'and girls' desire for success, girls are much more likely to adopt a cooperative rather than a competitive mode of behavior, even if this reduces their chances of succeeding at a task. She states, "in these studies girls appear more uncertain about wass to achieve their goals, hence rely more on, and are willing to accept more guidance from peers and adults" (p.317).

Peterson, Rollins, Thomas, and Heaps (1982) conducted a study in which families completed a simulation (Career Planning Game) that required them to allocate limited financial resources to aid in the life/career goals selected by the children. The 90 cross-sex sibling families (all from high SES brackets) tended to favor the male child's goals over his sister's, in a ratio of 4:1.

For example, following a family financial crisis, a son would be given the financial means of achieving his career goals, i.e., money for college, even though this caused his sister to be unable to achieve her's. It was typical for families to compensate the "disadvantaged" child, if an opportunity later arose, but the message regarding relative importance of career goals is clear.

Peterson, et al. also observed an interesting pattern in the families' decision-making processes. They report that it was very rare (only one occurrence) for a sister to protest the preferential treatment given her brother. Moreover, it was most common for the female to initiate the suggestion that enhanced her brother's situation. The researchers labeled this phenomenon as "tacit agreements" that existed in the families. So, even though daughters tended to be more liberal than their parents, they were cognizant of what was expected of them and were willing to comply. This illustrates, according to Peterson, et al. the influences that cultural norms have on a family's norms of interactions and decision-making. The results of their study also indicate the need for concern regarding the rules (implicit and explicit) that will develop surrounding the allocation of another scarce family resource, the home computer.

Suggested Research Questions

The preceding literature review can be summarized in terms of the research questions and hypothesis that it generates. At the most general level, it can be anticipated that gender-specific expectations and behaviors related to home computer use will develop in all families, with variations to occur dependent upon family type (as defined by Bernstein). Specifically, computer use in positional families will follow traditional gender-role patterns to a greater extent than in person-oriented families.

Scenarios can be drawn to illustrate some of the anticipated consequences of the adoption of a home computer by positional and person-oriented families. In positional families, computer use will be considered more the domain of males than females, with the fathers receiving precedence over sons. Male family members will be more likely to spend more time using the computer and to justify this dominance by invoking gender-role status and by ascribing greater importance, relative to female family members, to their computer use. Female family members are likely to defer with little or no resistance in disputes over allocating computer time. Mothers in positional families would be predicted to be the most infrequent users of the family's computer, as daughters are likely to somewhat less rigid in their belief in traditional norms related to the "non-mathematical" female.

In positional families it is expected that attributions regarding males' levels of computer skills would follow Parsons, et al.'s (1982) findings related to mathematics, i.e., males' skills would be seen as a function of ability. However, females' skills are very likely to be attributed to luck, as this type of attribution most closely fits into traditional female stereotypes (see Guttentag and Longfellow, 1977). Preferences for types of software content should also follow fairly strict gender-stereotypical lines, e.g., males preferring extremely aggressive videogames, females preferring non-competitive educational software. If existing software content does contain a "male" bias, then females in positional families can be expected to report very negative views regarding computer use, e.g., that it is inappropriate and/or uninteresting.

The more flexible gender-role standards in person-oriented families are likely to be related to greater use by females in these families than those in

positional families. Therefore, the frequency of use in person-oriented families should be greater than in positional families, with a greater frequency of disputes concerning dividing use among family members. The settlement of "claims" to the family's computer are likely to be a product of negotiation among family members. The outcome is expected to be influenced by existing cultural stereotypes, but the overt use of gender-related rationales for allocating computer time will be rejected in the process of decision-making. The gender-related patterns will therefore be more subtle, for example, sons may be allocated more control over computer use and software purchases than daughters, but daughters will be compensated with (or directed to) other activities, e.g., dance classes, reading.

In person-oriented families, females will be less likely than females in positional families to view computer use as irrelevant to themselves. Also, in person-oriented families, attributions of effort to female successes in computer use seem likely. In person-oriented families it is expected that there will be a greater frequency, relative to positional families, of children helping parents with computer use, e.g., explaining programming techniques, helping to select software.

The above descriptions of anticipated patterns of computer use in the two types of families can be codified into the following research questions:

1) What is the method through which individual's access to the family's computer is determined? In whose favor are disputes typically settled? How are the decisions rationalized? Do these decision-making patterns differ from similar, but non-computer-related decisions?

2) Across parents and siblings, what are perceptions of computer use in terms of self and other family members? For example, what types of attributions are made regard- computer use, what is the perceived importance of acquiring computer skills, what are the preferred types of software content?

3) How do actual levels of computer use skills, time spent at the computer, and content selected correlate with the individual's self-perceptions? What is the relationship between self-perceptions and perceptions of the individual by other family members?

4) Do significant differences exist between positional and person-oriented families in patterns of home computer use? Do significant differences exist regarding attributions made relating to computer use?

Methodological Issues

The preceding research questions provide some possible avenues for future research projects. The research would be best approached through the use of a multi-method technique involving surveys and/or interviews, skills tests to assess computer use abilities, and when possible, non-participant observations of family interactions and computer use. Information regarding types of software content availible is also very pertinent to the research being discussed. If no published content analyses of software are available, then one should be conducted as part of the research plan.

Bernstein and his colleagues (e.g., 1971, 1972) provide an acceptable method of determining family type through the use of questionnaires. These

questionnaires are designed to tap dimensions of family power structure, perceptions of social role and degree to which roles become ascribed or prescribed through the family's patterns of interactions. For example, likert-type items which assess parental attitudes toward age as a criterion for behavioral expectations, e.g., degree of acceptance of a six year old "tomboy" versus a 16 year old "tomboy". Other items typically included are those which assess the relative roles of family members in decision-making, e.g., should children be permitted to question family decisions; and those which question perceived utility of normative social roles, e.g., degree of acceptance of the father as the dominant decision-maker in the family.

The assessment of gender-role attitudes should include a clear differentiation between items dealing with prescriptive and descriptive roles (Beere, 1983). The subject (and the researcher) should be capable of identifying items that request information regarding knowledge of gender-related expectations and items that are reflective of the degree to which such expectations are perceived as appropriate and/or self-descriptive. For example, a child may respond that computer use is more for boys than for girls, based not on a belief that computer use is inappropriate for herself, but as the result of describing the most common situation that comes to mind.

Items should also be constructed to tap both global gender-role perceptions and those more directly related to computer use. Family members' responses to both types of items will be helpful in determining family types, in addition to providing information on attitudes toward computer use. Brogan and Kunter (1976) and Parsons, et al. (1982) provide measures that would be useful in designing items to measure parents' and childrens' gender-related attitudes and expectations. Items specifically related to computer use should

be included as Ajzen and Fishbein (1980) have demonstrated that tapping attitudes relating to the global domain, e.g., gender-roles, does not provide an adequate picture of attitudes or behaviors relating to specific instances within the domain, e.g., relative importance of computer skills for boys and girls.

In connection to the concerns of Ajzen and Fishbein raise regarding the connections between measured attitudes and behaviors, tests of computer skills should be given to all family members. Vaughter (1983) specifically cautions against relying exclusively on questionnaires in developing explanations of gender-related behaviors. Such "behavioral" tests would not provide direct evidence of a family's behavioral patterns but could serve as criteria from which to judge attributions regarding own and others' skills. Ways of testing skills could include performance on videogames (special care should be taken to select content that is as free from gender-bias as possible, such as games that don't involve injury to another person as a means of achieving goals), word processing tasks, and knowledge of the computer itself, for example, knowledge of commands, speed of task completions, etc. As an adjunct to this type of data, family members could keep computer use logs, including software used and time spent at the computer.

Observations of families' computer use will be difficult, logistically. Computer use is likely to be diffuse in terms of times when the computer is being used and because only one or two family members at a time are likely to be using the computer. Depending on time and budget constraints, videotaping of family computer use is a possibility. Anderson (1983) has had some success in using relatively unobtrusive videotaping of family television viewing patterns. It is obviously more difficult to obtain per-

mission from subjects for observations than for participation that requires completing questionnaires. Observational data can be very valuable, but the other available methods should provide useful and sufficient data.

Other restrictions inherent in the type of research being proposed are related to limititations that are likely to exist regarding selection of families. Families currently most likely to own home computers come from a narrow subset of the population. Naturally, this must be taken into account when analyzing data and in making generalizations from the research. Length of time that the families have owned a home computer should be taken into consideration in designing a study. The length of time actually spent studying the families is also of concern. If it is feasible to collect longitudnal data, then base rate messures of attitudes and skills should be taken.

Another important factor that has not been specifically mentioned is the need to take into account the ages of the children included in the study. Perceptions of gender-roles and their apparent influences on perceived appropriateness of and actual behaviors are developmental in nature (see Carter and Patterson, 1982). In addition, parental expectations and perceptions of their children also change as the children get older. Fagot (1982, p.284) in duscussing the tendency for parents to become more traditional in their expressed expectations of older than younger children states:

> Once the possibility of boy-girl dating begins, most parents put pressure on their daughters to leave behind the male activities. It is not that the parents' values have changed but that, as the child's capapilities changed, the values are now applicable whereas before they were not.

Particularly in the exploratory phases of research, it may be advisable to limit the selection of families to those with the most similar members, e.g., intact families with cross-sex siblings within a specific age range.

Fagot's comments regarding parental responses to questions regarding gender-role expectations of their children raises another important methodological issue, social desirability bias. Beere (1983) discusses social desirability biases as persistent and pervasive in gender-related research. For example, the tendency for females to attribute success to luck and failure to lack of ability may be a reflection of proscriptions against females boasting about successes, and not indicative of any lack of belief in abilities. Beere recommends being especially sensitive to the transparency of the measures that are constructed. This involves critically evaluating items for obviously "out-dated" descriptions of "male" and "female"traits and/or behaviors. She also suggests using indirect means of assessing gender-related information whenever possible. Carter and Patterson's (1982) work on the relationship between gender-role perseptions and the general domain of social conventions is illustrative of Beere's suggestion. In addition, subjects should be asked to give their impressions of the purpose of the study and their reactions to participating in it. This can provide a means of contextualizing their responses and behaviors obtained during the study.

Conclusion

Gender-related research is difficult and exciting due to the dynamic nature of the phenomenon which is being studied. In a similar manner, the dispersion of home computers provides a new field of study, another research area that makes salient the necessity of incorporating the effects of social

change into our theoretical perspectives and research methods. The combination of these two fields yeilds a sense of the fragility of our theories and tools in the face of their appointed tasks. Baruch (1983, p.222) in referring to this dilemma states that, "theory is insufficient, as it usually is in complex social systems, and what little independent evidence and common sense we can bring to bear must also be exploited."

Some of the "common sense" we can bring to the study of gender-role socialization related to computer use involves avoiding some of the mistakes of the past. Gender-related research has frequently had the consequence of reinforcing the very stereotypes it was illuminating (Beere, 1983; Thorne, Kramarae, and Henley, 1983). Reliance on stereotypical constructs of "femininity", "masculinity", and the "ideal" of adrogyny; and the penchant to exaggerate the importance of any differences found between males and females reifies gender biases in our culture.

In studying families, comparisons based on gender naturally arise. The study of differences is not inherently problematic, but differences should be studied only in the context of a holistic theoretical framework. The negative consequences of research on gender differences stem largely from the manner in which the data are interpretted. Jacklin (1983) offers some cogent advice in this regard, for example, avoidance of generalizing within-sex differences to between-sex differences, consistent use of power coefficients when conducting statistical analyses.

By focusing on the effects of differing family contexts as a salient factor, as opposed to gender, perse, in norms related to computer use it is hoped that a richer image of how computers are "fitting into" our society will evolve.

It is not expected that a home computer will "revolutionize" a family. Computers will be incorproated into a family in a manner heavily dependent upon pre-exsiting family norms. A "new" technology does not guaruntee "new" ways of organizing social reality. If computer software, for example, is subject to the same types of biases and constraints as other forms of mass communication, then the possibility for gender-related patterns seems very great. The differences in uses and effects typically found in research on other media forms foreshadow findings of differential effects of home computers.

Initial research projects should focus on the usefulness of family type as a contributing factor to patterns of home computer use. If family type is helpful in understanding how families incorporate home computers into their daily lives, then studies concerning within-sex patterns of uses of and attributions about home computers could follow, e.g., how do females raised in positional families compare to females raised in person-oriented families amount of use, preferred software content, etc. Perhaps some of the differences currently noted regarding computer skills and uses may be more correctly attributed to family type than to gender. Conceptualizing gender-related perceptions regarding computer use as a function of famliy type should also improve the quality of the data obtained over that obtained from the use of SES as an indicator of gender-related beliefs.

The research being proposed involves focusing on the interactive nature of the process of socialization. It relies on data obtained from both parents and children. Children may be expected to take a more overt part in the socialization process in person-oriented families, but this does not deny the dynamic nature of socialization in positional families. When studyir ; the effects of

a phenomenon that is relatively novel to both parents and children, as in the case of home computers, attention to the reciprocal nature of the socialization process and how this contributes to the manner in which the technology is incorporated into the family system becomes extremely important.

The dynamics of family systems are difficult to tap, but they cannot be ignored. By defining them, at least at a cursory level, insignt into other socializing institutions in which computer use is likely to be common, e.g., the schools, may be obtained. As has been noted at several points in this paper, families develop individualistic patterns of interactions, norms, etc., however, they are also influenced by other sources such as the schools and the culture at large. The complexity of determining the manner in which families will arrive at expectations and behaviors related to computer use should be kept in mind when interpreting the results of any research projects. Understanding why (and how) children learn to use (or choose not to use) computers should provide a framework from which to contextualize how to encourage computer use as a function of interest, not gender.

References

Ajzen, I., & Fishbein, M. Understanding attitudes and predicting social behavior. Englewood Cliffs, N.J.: Prentice-Hall, 1980.

Albert, A.A., & Proter, J.R. Children's perceptions of parental sex-role expectations. Journal of Genetic Psychology, 1982, 140, 145-146.

Amarel, M. The classroom: An instructional setting for teachers, students, and the computer. In A.C. Wilkinson (Ed.), Classroom computers and cognitive science. New York: Academic Press, 1983.

Anderson, D. Home television viewing by pre-school children and their families. Paper presented at the Society for Research in Child Development, Detroit, 1983.

Ball, A.J. Vidoetex: Chimera or dream machine? Canadian Library Journal, 1981, 38, 11-15.

Baruch, R.F. Causal models: Their import and their triviality. In B.L. Richardson, & J. Wirtenberg (Eds.), Sex role research. New York: Praeger, 1983.

Bearson, D., & Cassell, T. Cognitive decentration and social codes: Communication effectiveness in young children from differing family contexts. Developmental Psychology, 1975, 11, 29-36.

Beere, C.A. Instruments and measures in a changing, diverse society. In B.L. Richardson, & J. Wirtenberg (Eds.), Sex role research. New York: Praeger, 1983.

Bernstein, B. Class, codes, and control (Vol.1). London: Routledge and Kegan Paul, Ltd., 1973.

Bernstein, B. Class, codes, and control (Vol. 2). New York: Routledge and Kegan Paul, Ltd., 1973.

Bernstein, B., & Henderson, D. Social class differences in the relevance of language to socialization. In B. Bernstein (Ed.), Class, codes, and control (Vol. 2). New York: Routledge and Kegan Paul, Ltd., 1973.

Blumstein, P., & Schwartz, P. American Couples. New York: William Morrow, 1983.

Brogan, D., & Kunter, N.G. Measuring sex-role oreintation: A normative approach. Journal of Marriage and the Family, 1976, 38, 31-40.

Carter, D.B., & Patterson, C.J. Sex roles as social conventions: The development of children's perceptions of sex-role stereotypes. Developmental Psychology, 1982, 18, 812-824.

Comstock, G., Chaffee, S., Katzman, N., McCombs, M., & Roberts, D. Television and human behavior. New York: Columbia University Press, 1978.

Crandall, V.C. Sex differences in expectancy of intellectual and academic achievement. In C.P. Smith (Ed.), Achievement-Related motives in children. New York: Russel Sage Foundation, 1969.

Fagot, B.I. Sexrole development. In R. Vasta (Ed.), Strategies and techniques of child study. New York: Academic Press, 1982.

Finding home computer uses. New York Times, May, 1983, pp. D1; D7.

Frank, M. (Ed.), Young children in a computerized environment (Vol. 14). New York: Haworth Press, 1981.

Guttentag, M., & Longfellow, C. Children's social attributions: Development and change. In H. E. Howe, & C.B. Keasey (Eds.), Nebraska Symposium on Motivation (Vol.25). Lincoln: University of Nebraska Press, 1977.

Jacklin, C.N. Methodological issues in the study of sex-related differences. In B.L. Richardson, & J. Wirtenberg (Eds.), Sex role research. New York: Praeger, 1983.

Johnson, F.L. Communication with children: Toward a healthy construction of communicative roles. Paper presented at the Central Speech Association Conference, Chicago, April, 1978.

Kiesler, S., Sproull, L., & Eccels, J. Second-Class citizens? Psychology Today, March, 1983, pp. 40-48.

Koughan, M. The state of the revolution, 1982. Channels, December/January, 1982, pp. 23-29; 70.

Mosco, V. Pushbutton fantasies. Norwood, N.J.: Ablex, 1982.

Papert, S. Midstorms: Children, computers, and powerful ideas. New York:

Parsons, J.E., Adler, T.F., & Kaczala, C.M. Socialization of achievement attitudes and beliefs: Parental influence, Child Development, 1982, 53, 310-321.

Pepitone, E.A. Children in cooperation and competition. Lexington, Mass.: D.C. Heath, 1980.

Peterson, G.W., Rollins, B.C., Thomas, D.L., & Heaps, L.K. Scoial placement of adoloscents: Sex role influence on family decisions regarding the careers of youth. Journal of Marriage and the Family, 1982, 44, 647-658.

Pettigrew, T.F. The ultimate attribution error: Expanding Allport's cognitive analysis of prejudice. Personality and Social Psychology Bulletin, 1979, 5, 461-476.

Poole, M., & Field, T. Social class and children's language of control at ages five and seven. Journal of Speech and Hearing Research,

1971, 14, 421-427.

Ramage, J.C., Rotherman, K.S., & Robinson, C. The psychological rights of the child and sexual identity. Viewpoints in Teaching and Learning, 1982, 58, 64-75.

Severin, W.J., & Tankard, J.W. Communication Theories. New York: Hastings House, 1979.

Sigel, E. (Ed.), Videotext: The coming revolution in home/office information retrieval. White Plains, N.Y.: Knowledge Industry Publications, 1980.

Smith, M.D., & Fisher, L.J. Sex-role attitudes and social class: A re-analysis and clarification. Journal of Comparative Family Studies, 1982, 8, 79-88.

Tarvis, C. Who likes woman's liberation and why: The case of the unliberated liberals. Journal of Social Issues, 1973, 29, 175-198.

Thorne, B., Kramarae, C., & Henley, N. Language, gender, and society: Opening a second decade of research. In B. Thorne, C. Kramarae, & N. Henley (Eds.), Language, gender, and society. Rowley, Mass.: Newbury House, 1983.

Turner, G., & Pickvance, R, Social class differences in the expression of uncertainty in five-year-old children. In B. Bernstein (Ed.), Class, codes, and control (Vol.2). New York : Routledge and Kegan Paul, Ltd., 1973.

Vaughter, R.M. All things being equal, a behavior is superior to an attitude: Studies of sex-typed and sex-biased attitudes and behaviors. In B.L. Richardson, & J. Wirtenberg (Eds.), Sex role research. New York: Praeger, 1983.

Weitz, S. Sex roles. New York: Oxford University Press, 1977.

Wilkinson, A.C. (Ed.), Classroom computers and cognitive science. New York: Academic Press, 1983.

Wirtenberg, J., & Richardson, B.L. Introduction. In B.L. Richardson, & J. Wirtenberg (Eds.), Sex role research. New York: Praeger, 1983.